

WHAT IS CLAIMED IS  
~~Patent Claims~~

1. A method for the wavelength tuning of an optoelectronic component array having at least two optoelectronic components, the characteristic wavelength being set for each optoelectronic component using the principle of the thermal setting of the characteristic wavelength using the respective resistance heater, the wavelength deviation being determined on the basis of a comparison of the measured wavelength with the desired characteristic wavelength, **characterized in that** the thermal change of the resistance heater (H) required for setting the characteristic wavelength of the optoelectronic component is accomplished by selectively changing the resistance value of a resistor arrangement (RM) connected upstream from resistance heater (H).
2. The method according to Claim 1, **characterized in that** the resistance value of the resistor arrangement (RM) is changed using circuitry-related measures.
3. The method according to Claim 1, **characterized in that** the resistance value of the resistor arrangement (RM) is modified by changing the material, preferably by removing or applying material.
4. The method according to Claim 1, **characterized in that** the resistance value of the resistor arrangement (RM) is varied using laser ablation.<sup>1</sup>
5. The method according to Claim 1, **characterized in that** the resistance value of the resistor arrangement (RM) is changed through heat treatment.
6. The method according to Claim 1, **characterized in that** the resistance value

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<sup>1</sup>Translator's note (revisor SFG): The German text has two Claims 3. This has been corrected in the translation, so that the claim numbering no longer corresponds to the original German text.

of the resistor arrangement (RM) is altered by chemical or electrochemical treatment.

7. The method according to Claim 1, **characterized in that** the resistance value of the resistor arrangement (RM) is varied by particle implantation, electromagnetic radiation, or particle radiation.
8. The method according to Claim 1, **characterized in that** the resistance value of the resistor arrangement (RM) is modified by an electrical signal.
9. The method according to any one of the preceding claims, **characterized in that** the method is carried out at regular intervals
10. A device for the wavelength tuning of an optoelectronic component array having at least two optoelectronic components and at least one resistance heater (H) associated with each component for setting the characteristic wavelength of the optoelectronic component, **characterized in that** connected upstream of each resistance heater (H1-Hn) is a separate resistor arrangement (RM1-RMn), which is connected to the common voltage or current source ( $U_0/I$ ), and which is variable in its total resistance.
11. The device according to Claim 9, **characterized in that** the resistor arrangements (RM1-RMn) include individual resistors disposed in an array of resistors.
12. The device according to Claims 9 and 10, **characterized in that** the resistors of the resistor arrangements (RM1-RMn) are connected between contact fields (K1-Kn) situated in rows, the resistors being arranged in a fixed order with regard to their resistance values in the respective row, the specific total

resistance of each individual resistor arrangement (RM1-RMn) being formed by way of the contact fields (K1-Kn), preferably by bonds (B).

13. The component array according to Claim 11, **characterized in that**, for the attachment of electric leads, the contact fields (K1-Kn) are preferably in the form of contact fields (K1-Kn) having bond pads.
14. The component array according to any one of the preceding claims, **characterized in that** the resistors of the resistor arrangements (RM1-RMn) are made alternatively of metal, non-metal, semiconductor material, liquid, gel, ceramic, oxide, metal-matrix compound, liquid crystals and polymers.
15. The component array according to any one of the preceding claims, **characterized in that** the optoelectronic components are disposed on a first body and at least parts of the resistor arrangements (RM1-RMn) are disposed on at least one further body.
16. The component array according to Claim 14, **characterized in that** the first body is preferably composed of semiconductor materials, the second body being an insulator.
17. The component array according to any one of the preceding claims, **characterized in that** the optoelectronic component is a solid-state laser, an optical amplifier, a filter, a wavelength multiplexer or a waveguide.

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